cautions, the death-rate has been decreased (as shown in the same tables) to 12.5 per cent., a saving of life of nearly 20 per cent. Granting that these figures are faulty and misleading in conclusions drawn from them, may we not, by deducting 50 per cent. for such supposed errors in the present case, conclude that the remainder is a fair and just figure upon which to base an opinion as to the merits or demerits of the question of the value of antiseptic surgery. It certainly appears so, for what could be more reasonable? If then ten per cent. or even five per cent. of life is saved by the aseptic treatment of all amputations, its adoption should be universal, both in hospitals and private practice.

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# NOTE ON THE TREATMENT OF LEUKÆMIA.

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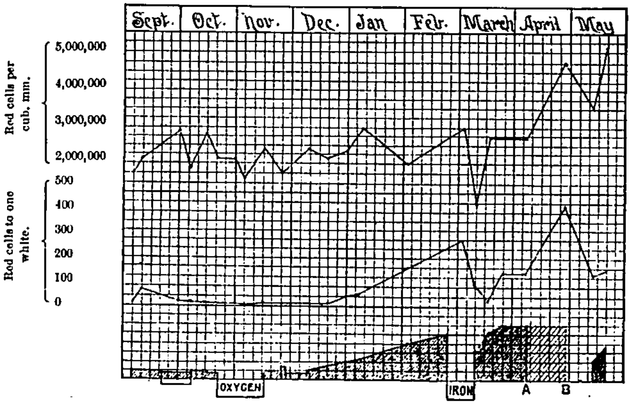
F. O., male, present age thirty-four, first noticed that he was getting large about the waist in the winter of 1886–87; from that date he became feebler, was troubled with frequent and sometimes severe nose-bleed, exhausting night-sweats, cough, some fever, and marked dyspnœa. There has been no priapism.

I saw him in the early part of September, 1888. His waist measured between forty and forty-one inches. The spleen extended down about three inches beyond the middle line, very nearly reaching Poupart's ligament. It seemed to have sagged a little, so that the upper right border, as determined by percussion at the back, had moved a little further than



normal from the middle line. The spleen was hard, its border notched, and it was firmly fixed in position. The entire abdomen was hard, but no definite proof of ascites could be detected. There was well-marked œdema of the legs. The liver was not much enlarged. There were no signs of pulmonary tuberculosis.

The white blood-cells were to the red as one to twenty, and the red were 2,400,000 per cubic millimetre.

The variations of the blood-cells under treatment are exhibited in the chart; they ran in the earlier weeks of treatment as low as 1 to 10.

The upper line represents the absolute number of red cells per cubic millimetre.

The middle line gives the number of red cells for one white.

The lower line indicates the treatment. Above the base-line arsenic is represented, and one (vertical) space means five drops of Fowler's solution three times daily. There were a few unrepresented intermissions of arsenic for forty-eight hours, it being resumed at the last dose. The spaces below the line indicate drugs other than arsenic; they are in general unimportant—a little iron, strychnine, or oxide of zinc. For a period of about a month in October and November, however, he took oxygen. This was bought under the name of "pure oxygen for medical purposes," but was really found to be diluted with nitrogen so that the oxygen constituted only a trifle over two-thirds of the mixture. (The analysis was very kindly made for me by Prof. H. E. Smith, of the Medical Department of Yale University.) Of this oxygen mixture the patient took twenty-eight quarts once daily, with very fair but not absolute regularity. During the time marked "Iron," in February and March, the dose was simply 15 gtt. tr. ferri chlorid. t. i. d.

The more lightly shaded arsenic space in April is intended to indicate the fact that while the patient was ordered 30 gtt. Fowler's sol. t. i. d., he in reality was remiss in taking his medicine, stating that he felt the greatest repugnance to it. There were no indications of intoxication. He seemed to have taken the dose about half as often as prescribed. The observations were made at 8 P.M. after a supper at 6 P.M.

Now it will be observed that no effect was produced on the leucocytosis by either the oxygen or the small doses of arsenic. When the latter was increased the leucocyte line began very perceptibly to rise and reached the proportion of 1 to 350 in March. After a substitution of iron for arsenic for a little over two weeks there was a marked increase of leucocytes. The reinstitution of the arsenic in doses rapidly rising to 30 drops t. i. d. carried the leucocyte line up to a ratio of 1 to 530. The line dropped again when the arsenic was stopped at the end of April, and rose a third time on its resumption. The arsenic effects seem to be sluggish—*i. e.*, the rises and falls of the leucocyte line seem to come a little while after the changes in the arsenic line.

The red-cell-per-millimetre line observes the change of the other lines, and, if anything, seems to respond to the arsenic a little more quickly than the leucocyte line.

The general condition of the patient at present is very good. His symptoms have throughout corresponded pretty well with the blood improvement. His girth is thirty-four or thirty-five inches in place of forty or forty-one. The lower right border of the spleen has retreated to the middle line, or a trifle to the left of it, below the umbilicus. The upper left border is above the costal border, but still further from the middle line than at first; so that the reduction in size of the spleen has been very considerable, involving, I should say, a shortening of its larger diameter four or five inches. It is now freely movable and the abdomen is soft. He has had no epistaxis of any extent since Christmas; he has no fever, no night-sweats, no dyspnœa or cough. His appetite is excellent; he looks and feels very well. His weight, notwithstanding the diminution of girth, has increased several pounds.

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# ON A CASE OF SIMPLE IDIOPATHIC MUSCULAR ATROPHY, INVOLVING THE FACE AND THE SCAPULO-HUMERAL MUSCLES.

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In the classification of primary myopathies, the difficulties have been greatly increased by the description of forms depending upon the situation of the atrophy. Varieties of the same disease have been described as separate maladies, and from the inevitable confusion we have scarcely escaped.

Erb has simplified matters very much by grouping all the forms under one designation—dystrophia muscularis progressiva—of which two chief types are recognized:

(1) With primary hypertrophy, the pseudo-hypertrophic muscular paralysis.

(2) With primary atrophy.

As cases of pseudo-hypertrophic paralysis occur in which atrophy and hypertrophy exist in the same muscle, or wasting occurs in one group and enlargement in another, or atrophy in one group precedes for months the development of hypertrophy in another, it is not surprising that these two forms are regarded by many as identical. Gowers, however, calls attention to the fact that, when cases of atrophy occur in families, they never present the features of pseudo-hypertrophic disease.

It is in the cases with primary muscular atrophy that the greatest confusion exists in classification, and the following forms have been recognized and described: